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# *Media Detectives: Bridging the Relationship among Empathy, Laugh Tracks, and Gender in Childhood*

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**Abstract**

Empathy in college-age students is decreasing at unprecedented rates. Understanding empathy in children can act as primary prevention in tackling the problem. This study considers laugh tracks' capacity to bias reality, foster empathy, and investigate differences across time and gender in 181 fifth grade students. Findings from this quasi-experimental study suggests that students' perceptions of the relationship between empathy and canned laughter changed significantly from pretest to posttest. Statistically significant differences were present for gender, as well. Theoretical and practical implications of using laugh tracks to increase empathy in middle and late childhood are discussed.

Keywords: *media literacy, children, laugh track, empathy, canned-laughter, gender*

The media has broad influence on American society, affecting aspects of our human experience from attitudes to norms to behavior (Potter 2012). While initial efforts to implement media literacy in American schools focused on explaining how various forms of media platforms work (i.e., print, photography, film, radio, television, and digital media), the field has shifted to an emphasis on understanding media's potential for global level transformation (Thoman and Jolls 2004). Media messages are rapidly assimilating into the culture at unprecedented rates and with lasting effects (Potter and Riddle 2007; Valkenburg and Peter 2013; Bushman and Huesmann 2006; Strasburger et al. 2013). There is a wealth of information detailing strong support for both positive and adverse effects of media on child and adolescent development. Numerous empirical studies have provided clear evidence of the active role that media plays in the lives of children and adolescents such as promoting early childhood literacy,

improving curricula in a variety of educational contexts, and developing informative and critical public health and safety messages (Rideout, Lauricella, and Wartella 2011). Conversely, scientists have documented the negative developmental consequences of a heavy, daily media diet on children's behaviors including violence, eating, smoking, sexual activity, and educational disparities (Rideout, Lauricella, and Wartella 2011). Despite the pervasive impact of media on behaviors, little research has focused on how a particular production technique (i.e., use of laugh tracks) may support critical media consumption and cultivate empathy.

## Approaches to Media Literacy Education

Media literacy programs proliferated in schools and universities across America during the 1950s and 1960s, largely borrowing from the work of educators in Great Britain (Hobbs and Jensen 2009). During the mid-twentieth century, media literacy was included as a means of "cognitive defense" against sensationalist messages perpetuated by media propaganda. By 1990s and with the advent of the Internet, media literacy practiced shifted from its intended form to the wayside for "tool competence" programs that helped students understand how to use the new technology that surrounded them, rather than learn how to interpret media messages (Scharrer 2013). Currently, however, media literacy has re-emerged in light of a new participatory culture that would warrant digital citizenship to navigate a social media world that comes with its required skills and knowledge (Hobbs and Jensen 2009).

In 2007, scholars from the American media literacy community created the Core Principles of Media Literacy Education in the United States. The document asserts that "media literacy education requires active inquiry and critical thinking about the messages that we receive and create" (National Association for Media Literacy Education 2007, 1). The CPMLE emphasize the need for integrated and repeated practice, and for understanding that media function as societal agents, and are interpreted by people who use their unique skills and beliefs. Emerging from the historical past of media literacy education, Hobbs and Jensen (2009) describe how NMLE, or new media literacy, has been integrated into curricula across a variety of disciplines. Schools across America are integrating NMLE with standards-based educational curricula to tackle a broad range of topics including social issues, sex, drugs, violence, and body image, with success according to several literature reviews (Hobbs 2011; Jeong, Cho, and Hwang 2012; Potter 2010). The outcomes of this curricular integration are mainly positive when curricula are focused, cohesive, and employ multiple and longer sessions (Scharrer 2013; Scharrer and Ramasubramaniam 2015). Media literacy does more than encourage critical thinking about media topics; it fosters the enfranchisement of people in a world where media citizenship and participation is essentially a prerequisite for being a "citizen of the world" (Hobbs and Jensen 2009). A level of participation is cultivated when media literacy curricula employ production, in addition to developing critical thinking.

Children who understand the motivations and production techniques of media are less likely to emulate anti-social attitudes and behaviors depicted in it.

With this goal in mind, we examined a media program at the Kidsbridge Tolerance Museum, which operates one of the few youth-dedicated tolerance centers in the United States. It is a unique environment designed for preschool through eighth-grade students and youth groups/ summer camps to increase empathy, empowerment, and social-emotional skills through games, role-play, puppetry, and small group discussions. Recent interests at Kidsbridge have pertained to the relationship between canned laughter, a topic in media literacy education, and empathy. Next we review the literature on empathy, laugh tracks and in-group bias to frame the context of our research.

**Empathy**

Empathy is the ability to feel or imagine another person's emotional experience. Empathy is a frequently studied personality facet in children because of its importance to prosocial behavior, reductions in antisocial behavior, and healthy childhood development (Eisenberg, Hofer, Sulik, and Liew 2013; Erikson 1968). Past studies have found that empathy counteracts and moderates many negative personality features, in particular with a focus in interpersonal realms (Eisenberg et al. 2013).

Clinical definitions of empathy establish two components: an emotional facet, where an individual vicariously experiences another's emotional state, and a cognitive aspect where a person imagines another's experience (McDonald and Messinger 2011). The ability to empathize is an important part of social and emotional development, affecting an individual's behavior toward others and the quality of social relationships (McDonald and Messinger 2011). Children develop empathy in a gradual process from infancy through childhood. Recent findings suggest that children become more aware of their feelings around age four and can more easily relate to others' feelings between the ages of six and ten (Saracho 2014). Even educating or teaching children younger than five years old about the effects of their behavior on others and the importance of being kind is useful in promoting empathy and prosocial behavior (Cotton 1992). This type of perspective-taking is significant, given that it appears to lead to decreases in antisocial behavior, delinquent attitudes, anger, externalizing behaviors, and physical and verbal violence levels (Eisenberg et al. 2013; Stanger, Kavussanu, and Ring 2012).

While the decrease in unfavorable traits holds significant clinical implications, the social consequences are not as well understood. Studies found gender differences in empathy during the 1980s and 1990s, with girls reporting higher levels of empathy than boys (e.g., Carlo et al. 1999; Eisenberg and Lennon, 1983), but more recent findings are less conclusive (Eisenberg et al. 2005). The stereotype of male stoicism is challenged, with boys displaying more outward emotion than girls during preschool and middle childhood (Chaplin and Aldao 2013). Findings on gender differences in empathy, when considered as an aggregate, have been inconclusive — and the literature on gender differences in empathy in the context of media literacy is almost nonexistent. Yet, when considering children more generally, developmental psychologists and media scholars have argued that screen media play a crucial role in children's emotional development and that the ability to empathize with others is a fundamental

component of social competence (Dorr 1982; Halberstadt, Denham, and Dunsmore 2001; Wilson 2008).

For instance, Konrath et al. (2010) found that empathy in college students has declined significantly since 2000. Their finding is significant as this year saw the advent of social media proliferation, which has continued through the past fifteen years (Andzulis, Panagopoulos, and Rapp 2012). Taking into account the fact that children's exposure to social media is exponentially increasing for younger ages, makes the investigation of the relationship between social media and empathy all the more relevant. The relationship between these variables is under-researched, with the extant literature largely focusing on media's impact on maladaptive behaviors (Anderson et al. 2010; Bartholow, Sestir, and Davis 2005; Wilson 2008). Existing literature points to empathy as an essential mediator of short-term effects of prosocial media (Prot et al. 2014). Other studies detail overexposure to violent media leading to violence desensitization and reduced empathy in children towards individuals experiencing pain (Bushman and Huesmann 2006; Fanti et al. 2009; Funk et al. 2004; Krahé and Möller 2010; Scharrer 2013). Very few studies, if any, address the relationship between empathy and specific production elements in media, or what could be done to facilitate the development of empathy through media education curricula.

To address the gap in media literacy education with regards to empathy and media production, we seek to investigate the relationship between canned laughter (i.e., laugh tracks), empathy, and media. We assert laughter overlaid on a clip where a person is getting hurt (i.e., America's Funniest Home Videos) could disrupt a child's ability to relate to the distressed individual in both the emotional and cognitive facets of empathy.

**Laugh Tracks**

Extant literature over the past several decades has established that laughter and smiling are primarily social phenomena. Humans are more prone to laughing if they hear others doing so (Kashdan et al. 2014; Provine and Fischer 1989; Scott et al. 2014; Treger, Sprecher, and Erber 2013). Individuals are more likely to laugh if the stimulus is labeled as humorous or is meant to be laughed at (Platow et al. 2005). These factors heavily influenced the implementation of canned laughter into facets of media as a way to increase audience appreciation (Platow et al. 2005). Canned laughter is a separate soundtrack, created from a composite of various sources, with the sound of genuine audience laughter inserted into comedies and sitcoms on American television (Furnham, Hudson, and McClelland 2011).

Many laugh tracks are considered benign, and we should not demonize the networks and genres that make use of them. However, television shows such as America's Funniest Home Videos, or AFV, utilize canned laughter track in ways that could potentially negatively affect young viewers. AFV often feature original marriage proposals, and people or animals display exceptional talents. Still, some of the favorite videos are those that show individuals and animals getting into seemingly humorous accidents caught on camera (Scheithauer 2015). In addition, AVF has aired many clips showing old, morbidly obese, or otherwise

disadvantaged people falling and appearing to feel pain as a result. While the show's policy does broadcast videos that involve staged accidents or people getting injured, many of the falls that take place appear to cause pain for the individuals concerned (Scheithauer 2015).

This is problematic as children might not yet be able to discern a difference between a clip of somebody encountering serious injury versus a person pretending to be pained in a clip that met the standards and practices criteria of a television network. Researchers explain this by a child's inability, as compared to that of an adult, to adequately distinguish television from reality and understand the feelings of others as unique from their own (Nathanson et al. 2013; Schwenck et al. 2014). While it is likely that a child might worry about the individual's well-being if they were a relative, they might have reduced empathy for a stranger distanced by a screen (Deladisma et al. 2007). Additionally, according to the general learning model, as explained by Prot et al. (2014), children learn from environmental interactions, including from the media, and the media content determines much of what is learned. Thus, when watching these videos with laugh tracks, children could learn to link laughing and falling and getting hurt, as well as become desensitized to accidents where people could get seriously hurt (Bushman and Huesmann 2006). Hearing adults laughing in response to the falling (even with canned laughter), may trigger suggestible children to extrapolate what they see on this reality television show and apply it to real life, where they might laugh at someone who is in real pain (Nathanson et al. 2013; Valkenburg and Peter 2013). Removing the laughter track from the videos heightens the disparity between the relative seriousness of the clips and the humor that the laughing injects. This finding elicits the question: why do viewers enjoy and laugh at these clips?

**Ingroup Bias**

An obvious answer is that slapstick comedy endears itself to a portion of the general population. However, there is more to the answer. Research suggests that an "ingroup bias" on the part of those watching a clip with canned laughter may explain why laughter results. Ingroup here means a group that a person psychologically identifies as being part of; this contrasts with an outgroup with which an individual does not determine (Platow et al. 2005). Ingroup bias can affect the level of empathy a person feels for an outgroup member. Previous research suggests that this effect is persistent even if an arbitrary distinction separates two groups (Cikara, Bruneau, and Saxe 2011; O'Donohue 2010). These findings explain how children might distance themselves from characters in media by seeing themselves as part of an ingroup of real-life people, contrasting with an outgroup of individuals who are pixels on a screen. These results underscore the media's potential to influence empathy. Societal pulls of conformity compact the impact of ingroup bias. Nosanchuk and Lightstone (1974) investigated the relationship between canned laughter and compliance. They found that people are prone to laughing when they feel obligated by social norms especially if they hear others laughing around them. The authors noted above obtained these results from a sample of college-age adults; children, who are more malleable and easy to

influence than adults, can be especially vulnerable to the allure of fitting in (Haun and Tomasello 2011). The findings, as mentioned earlier, illustrate how ingroup bias and conformity pressures can influence a laughter response to canned laughter in children who, as explained earlier, may not have fully developed empathy and may lack the ability to understand if the situation that a laugh track corresponds with is truly distressing. To examine this issue, we partnered with the Kidsbridge Tolerance Center.

**Kidsbridge Tolerance Center**

Current views on the way students learn are changing. In 21st century classrooms, traditional delivery models of teaching are moving to methods that are student-centered. Student-centered learning focuses on the discovery and active construction of knowledge. One such interactive center known as Kidsbridge started in 1996. The Kidsbridge mission is to educate and empower children and youth through character education, diversity appreciation, and pro-social life skills training. The purpose is to create empathetic individuals and caring citizens who live their lives conscientious of any prejudice or discrimination, and who strive to be advocates for themselves and others. Kidsbridge programs and exhibits are engaging and continually evolving, incorporating research so as to reflect the ever-changing challenges facing both educators and students in the digital age.

The programs and exhibits showcase diversity and support the goal of helping youth understand and care about those who are different from them. By simulating real-life interactive situations, children can observe and experience how prejudice and discrimination feel and how it affects others. Recognizing significant voids in life skills/character education in school programs, Kidsbridge created this unique learning center (see *http://kidsbridgecenter.org/* for additional information). Each year, more than 2,200 youth visit for four hours, leaving with activities to take back to school. Small group face-to-face interactive discussions: name calling, "UPstander" strategies, stereotypes, strength, and team-building are assessed directly before and after the activities.

Part of Kidsbridge's mission is media literacy. Until recently, Kidsbridge only had discussions with elementary schoolers about advertising, toys, and media representations of gender. Facilitators lead these discussions hoping to raise awareness of gender stereotypes in the media. 'Media Detectives' was created and piloted in late 2014. Given that the media today heavily influences children at a time where they are impressionable, it is important to study how media impacts their perception of the world (Konrath, O'Brien, and Hsing 2010; Thoman and Jolls 2004). Yet, existing research that addresses empathy tends to refer to samples of adults, rather than children. There are a few articles on the connection between canned laughter and empathetic behaviors and there is limited empirical support, if any, on the impact of canned laughter on empathy in a direct sense.

**Research Questions**

This unique and exploratory study analyzes the relationship between laugh tracks, empathy, and gender in the context of the Kidsbridge Media Literacy curriculum.

> $H_1$: We hypothesize that exposure to the Media Detectives activity at Kidsbridge will positively influence empathy over time.
>
> $H_2$: We hypothesize that exposure to the Media Detectives activity will encourage students to confront laugh tracks' capacity to bias reality by heightening self-perception to combat the effects of ingroup bias.

To examine these hypotheses, we posed the following three research questions:

> $RQ_1$: Does a canned laughter activity lead to positive changes in empathy ratings from pretest to posttest?
>
> $RQ_2$: Does a canned laughter activity lead to heightened self-awareness about the role and implications of canned laughter tracks?
>
> $RQ_3$: Does gender serve as a contributing variable in empathy and ingroup bias based on a canned laughter activity?

## Method

The initial objective of this study was to design, develop, and pilot a new activity at the Kidsbridge Tolerance Center called Media Detectives. We used a one group pretest-posttest quasi-experimental design to measure the effectiveness of the exhibit. We designed this exploratory study without a control group as a cost-effective way for the staff of the Kidsbridge Tolerance Center to discern whether a potential explanation was worthy of further investigation.

*Sample.* Participants were 181 fifth-grade students from three suburban elementary schools in central New Jersey. The sample was 51.93% female (n = 94) and 48.07% male (n = 87). The overall mean age of the sample was 10.58 years. All 181 students completed both the pretest and posttest surveys. There was no control group included, and we elaborate on the implications of this omission in the discussion section.

*Materials.* In this study, the materials included a script, a video clip, and an original survey.

*Script.* The script is noted as a standardized procedure and routine that could help counter experimenter bias. In implementing the program, museum facilitators followed a script for the media literacy exhibit activity, which they called "Media Detectives" (See Appendix for the script).

*Video clip.* We used two video clips in the media literacy program, and both centered on the theme of elderly and otherwise disadvantaged people falling and getting hurt. We selected these videos for their length; both were roughly two minutes long and were able to encapsulate visuals of people falling in a short span

that would cater to children's capacity to stay focused. First, they watched an AFV clip of people falling and getting hurt without sound, and a second time they watched the video again with sound. The facilitator led a discussion of the laugh tracks and producers. The facilitator prompted students to consider why the producers wanted them to laugh.

*Media Detectives survey.* The survey was identical in the format for both pretest and posttest and included four questions. All four were structured with a Likert scale format, where '1' was "strongly disagree, " and '5' was "strongly agree'. The participants were asked to select the number from the scale that most closely describes them or their personal reactions. Items include:

Question 1. *I notice the sound of people laughing when I watch TV or YouTube videos.* This question pertains to the students' capacity to extricate the laugh track from the visuals before interpreting its possible influences. We created Question 1 after considering how ingrained laugh clips might be in media, and therefore not intuitively distinguishable as a separate phenomenon.

Question 2. *It is okay to laugh while watching TV when people are getting hurt.* This question assesses empathy, along with students' ability to confront laugh tracks' capacity to bias reality in real life situations.

Question 3. *Shows on TV and the Internet are created by people who are trying to make me think a certain way.* This question most pointedly investigates the influence and efficacy of the videos and discussion on survey responses, pre (where there was no video or discussion) versus post-test.

Question 4. *I feel sad when I watch videos of people getting hurt or feeling upset.* This question is meant to bridge the concepts of laugh-track purpose and empathy and ties into having students imagine that the people getting hurt in the videos were loved ones.

*Procedure.* Three fifth-grade classes participated in a four-hour field trip at the Kidsbridge Tolerance Center, which included fifteen-minute small group discussions of the media literacy exhibit. Students completed a four-question survey two times: first before the activity began, and the second time after the activity concluded. Small groups of five/six students entered the activity at a time. When the students arrived at the media exhibit, they sat in seats around the museum facilitator, who then read from the script noted in the materials section above. After defining and deliberating the meanings and implications of media in culture and defining "detective," the facilitator handed out pretests. We played AFV clips without sound on a monitor, using YouTube. Next, we replayed the clips with sound. The group discussed the qualities added by the sound, and how perspectives on the videos might have been different if the people in the clips were loved ones of their own, such a family or friends. After this, the facilitator split the group into pairs in order to facilitate a discussion of their views on the clips. Upon completion of the activity, we reconvened the group and introduced to the term "upstander" (an individual who takes action when they see intolerance or injustice, see Kulka 2012), and asked them to apply it to what they just viewed. Finally, we administered a posttest survey and the group then moved on to a different exhibit in the Kidsbridge Center.

Given the exploratory nature of the study, Lynne Azarchi and the Kidsbridge Education Curriculum Committee created four items to assess media knowledge, empathy, and ingroup bias. In this pilot project, the number of items to measure Cronbach's alpha reliabilities is quite small, and our data collection instrument covers many different aspects. As a result, we computed the coefficient of stability reliability value on less than an ideal number of survey items. The resulting value for the total instrument score ($\alpha = .36$) is relatively weak; but has the potential to increase if we add more scale items in future revisions to the measure. Cronbach's alpha is the most common measure of internal consistency of multiple Likert questions in a survey/questionnaire items. Since there were only one or two items to assess each construct, we believe that the computation of a Cronbach's alpha is misleading and is simply not appropriate in this particular situation.

## Results

### Empathy and Ingroup Bias

A series of paired-sample t-tests yielded a number of statistically significant findings regarding empathy (see Table 1). There was a significant difference in the scores for question 1 between pretest ($M = 4.17$, $SD = 0.96$) and posttest ($M = 4.40$, $SD = 0.99$); $t(180) = -2.62$, $p < .01$. The higher score indicates that the children chose a higher Likert Scale value, on average, on posttest compared to pretest. This finding supports the hypothesis that the Kidsbridge

Table 1
*Empathy and Ingroup Bias*

| | Pre-Program | | Post-Program | | Paired-Sample T-Test |
|---|---|---|---|---|---|
| Question | M | SD | M | SD | T |
| Q1: I notice the sound of people laughing when I watch TV or YouTube videos. | 4.17 | (.96) | 4.40 | (.99) | -2.62** |
| Q2: It is ok to laugh while watching TV when people are getting hurt. | 2.65 | (1.11) | 2.15 | (1.13) | 6.52*** |
| Q3: Shows on TV and the internet are created by people who are trying to make me think a certain way. | 3.27 | (1.09) | 3.84 | (1.18) | -6.16*** |
| Q4: I feel sad when I watch videos of people getting hurt or feeling upset. | 3.33 | (1.10) | 3.48 | (1.29) | -1.59 |

*p < .05, **p < .01, ***p < .001

program would effectively increase self-awareness about canned laughter and its implications, helping children become more resistant to the sway of ingroup bias. There were significant differences in scores for question 2 between pretest ($M = 2.65$, $SD = 1.11$) and posttest ($M = 2.15$, $SD = 1.13$), $t(180) = 6.52$, $p < .001$. Therefore, the children, on average, chose lower numbers on the Likert Scale between pretest and posttest, showing that they thought laughing at someone getting hurt was less okay between pretest and posttest. This result supports the hypothesis that the Kidsbridge activity would increase empathy in the children at posttest. There was a significant change in scores for question 3 between pretest ($M = 3.27$, $SD = 1.09$) and posttest ($M = 3.84$, $SD = 1.18$), $t(180) = -6.16$, $p < .001$.

These results show that the children chose higher values, on average, on the posttest than the pretest. This finding suggests that the activity was successful at promoting self-awareness of potentially harmful media influences, despite the impact of ingroup biases. There were no significant differences for question 4 between pretest ($M = 3.33$, $SD = 1.10$) and posttest ($M = 3.48$, S D= 1.29), $t(180) = -1.59$, $p > .05$. Children answered with higher numerical values on the posttest than on the pretest which supports the first hypothesis of an increase in empathy ratings over time. While a positive change did occur, the difference was not enough to be considered statistically significant.

**Gender Differences in Empathy and Ingroup Bias over Time**

The within group analyses (or comparisons within each gender group over time) yielded a number of statistically significant findings. All analyses are based on paired-sample t-tests. Boys' results did not show statistically significant differences for question 1 between pretest ($M = 4.24$, $SD = 0.99$) and posttest ($M = 4.43$, $SD = 0.90$), $t(86)$, $=-1.38$ while girls' results did show positive and significant differences between pretest ($M = 4.19$, $SD = 0.94$) and posttest ($M = 4.38$, $SD = 1.07$), $t(93) = -2.31$, $p < .01$.

These results could be explained by differences in how boys and girls are encouraged to display their empathy according to the dominate culture, or inherent differences between boys and girls in capacity for empathy, lending credence to the idea that girls may be more perceptive than boys (Cataldi 1993). Boys' and girls' results show shared statistically significant differences for question 2 between pretest (Boys: $M = 2.94$, $SD = 1.06$; Girls: $M = 2.37$, $SD = 1.09$) and posttest (Boys: $M = 2.48$, $SD = 1.19$; Girls: $M = 1.85$, $SD = 0.99$) conditions (Boys: $t(86) = 4.25$, $p < .001$; Girls: $t(93) = 4.94$, $p < .001$). Question 2 gauged empathy, indicating that perhaps gender differences in empathy do not exist, or do not exist in a way that could be captured through the questionnaire.

In addition, boys' and girls' results show shared statistically significant differences for question 3 between pretest (Boys: $M = 3.26$, $SD = 1.07$; Girls: $M = 3.28$, $SD = 1.10$) and posttest (Boys: $M = 3.68$, $SD = 1.27$; Girls: $M = 3.99$, $SD = 1.07$) conditions (Boys: $t(86) = -2.95$, $p < .01$; Girls: $t(93) = -5.91$, $p < .001$). Question 3 calls into question the alleged greater self-perception in girls versus boys, suggesting that that girls may not be much more self-aware than boys.

Neither boys' nor girls' results showed statistical significance on question 4. This result could speak to a lack of gender difference in empathy, or children misunderstanding the question. These statistics can be observed in Table 2. In general, the comparison between groups (that is, boys vs. girls) yielded statistically non-significant findings for the four questions. However, it is important to note that there was a trend where girls showed slightly greater gains from pretest to posttest for girls than boys.

Table 2

*Gender, Empathy, and Ingroup Bias over Time*

| | Pre-Program | | Post-Program | | Paired-Sample T-Test |
|---|---|---|---|---|---|
| Question | M | SD | M | SD | t |
| Q1: I notice the sound of people laughing when I watch TV or YouTube videos. | | | | | |
| Boys (n = 87) | 4.24 | (.99) | 4.43 | (.90) | -1.38 |
| Girls (n = 94) | 4.10 | (.94) | 4.38 | (1.07) | -2.31* |
| Q2: It is ok to laugh while watching TV when people are getting hurt. | | | | | |
| Boys (n = 87) | 2.94 | (1.06) | 2.48 | (1.19) | 4.25*** |
| Girls (n = 94) | 2.37 | (1.09) | 1.85 | (.99) | 4.94*** |
| Q3: Shows on TV and the internet are created by people who are trying to make me think a certain way. | | | | | |
| Boys (n = 87) | 3.26 | (1.07) | 3.68 | (1.27) | -2.95** |
| Girls (n = 94) | 3.28 | (1.10) | 3.99 | (1.07) | -5.91*** |
| Q4: I feel sad when I watch videos of people getting hurt or feeling upset. | | | | | |
| Boys (n = 87) | 3.21 | (1.09) | 3.36 | (1.21) | -1.05 |
| Girls (n = 94) | 3.44 | (1.09) | 3.59 | (1.36) | -1.20 |

*p<.05, **p<.01, ***p<.001

## Discussion

As a method to foster empathy in kids, children should be encouraged to think critically about media messages and influences. The present study builds on previous research that investigates media literacy efficacy, empathy, and canned laughter to understand the relationship between these variables and how children may develop empathy better. Interventions to draw awareness to media's

sometimes-negative sway and to equip children with the skills necessary to interpret biased media messages have been widely successful (Puchner, Markowitz, and Hedley 2015; Thoman and Jolls 2004). The present study adds to research that suggests media literacy education is a promising strategy for cultivating empathy.

Platow et al. (2005) explored the relationship between canned laughter and ingroup perception. Their work reinforces the idea that canned laughter is far less effective in eliciting laughter from an audience when the sample realizes that the track is artificial and not derived from an 'ingroup,' or a social group to which a person psychologically identifies as being a member (Platow et al. 2005). These findings support our results, which reveal that group discussion about the purpose of the laugh track and its possibly misleading quality resulted in statistically significant mean score differences in Questions 1, 2, and 3. These findings also support Porterfield et al. (1988), which suggest that self-focus decreased the extent to which participants' evaluations of the stimuli were biased by canned laughter. Encouraging students to discuss the contextual implications of canned laughter themselves promotes self-focus through group reflection and thus cultivates their ability to relate to others (i.e., empathy).

Within the breadth of literature concerning empathy, there is little research that focuses on either the gender differences in empathy within children, or the relationship between empathy and media. Empathy was thought to be a significant difference between males and females in a cognitive sense, given that women tend to score higher on measures of emotion perception and empathy (Toussaint and Webb 2005), though more recent findings call this assertion into question by confronting influencing variables like social norms and differing cultures. Women may feel social pressure to respond more empathetically, while men might suppress empathetic responses to conform to gender roles (Nanda 2013). Given that these findings may be nebulous at best, due to uncertainty regarding the source of empathy differences by gender, extrapolating them to children may not be wise. Thus, the present study sought to expand on the findings as mentioned earlier, as well as the research of Cotton (1992), McDonald and Messinger (2011), and Schwenck et al. (2014).

Our results show statistically significant mean differences from pretest to posttest for both boys and girls on Questions 2 ("It is ok to laugh while watching TV when people are getting hurt") and 3 ("Shows on TV and the internet are created by people who are trying to make me think a certain way"). However, Question 1 ("I notice the sound of people laughing when I watch TV or YouTube videos") showed statistically significant results for girls only. This result could act as corroboration for the long-standing idea that females are more perceptive than males; though, as previously addressed, socialization and gender norms are more likely to accurately explain this disparity in perceptive ability than would innate differences between boys and girls in their capacity to observe emotion-related cues. Implications of Question 1 results may point to gender differences in empathy within a child cohort, or could be explained by other variables like differences in familial upbringing or culture across the sample. Question 4 did not show statistically significant results, which could highlight a need for an

expanded questionnaire to glean student opinions more effectively, and suggests the need for a control group to discern program effectiveness more accurately. Further research on the relationship between empathy, gender, and emotion perception is necessary to strengthen these preliminary findings.

This novel research boasts many strengths. Our sample was robust, with over one hundred students from racially diverse schools. The educational program was simple and well structured, providing insightful questions for students to answer and promoting an atmosphere where they could reflect in both individual and "pair-share" settings. Clips were approximately two minutes long, and therefore long enough for students to grasp what was happening, but not so long that they would lose focus. Additionally, the discussion was not didactic or lecture-styled and encouraged the children to arrive at their conclusions by helping them envision future scenarios where they might be more analytical about programs they watch and would need to tap into their empathy.

Our research investigated unexplored relationship between empathy, canned laughter, and gender in a sample of children. Its results, current and post-replication, offer unique information for media professionals, educational practitioners, and scholars both in and out of schools. Understanding the current state of children's perception of canned laughter is vital when attempting to build programs or curricula that foster empathy, and seeing what sort of program structures aid children in learning about media literacy could help teachers to create more comprehensive curricula. Investigating the differences in empathy between genders can lead to the discovery of information needed to break down gender norms that may result in suppression of empathic expression. During a time where technology is reshaping children's perceptions of the world and their places in it, this research is more important than ever.

While results of this study are promising, there are some limitations to consider. Despite the diverse nature of our sample, we did not document the race and ethnicity of students and therefore we did not consider this as a variable influencing results, nor did we take into account the race or ethnicity of the individuals featured in the AFV clip. Additionally, there is no way of knowing that the posttest survey results are representative of deep-held ideas in the students, or beliefs directly inspired by the discussion portion of the canned laughter activity. We cannot determine if the results would have been the same in a control group versus the experimental group. It is possible that this would have been the case, and future study replications need to incorporate a control group that does not undergo the media literacy activity to ascertain whether it is the activity, rather than chance, that effects statistically significant changes in empathy between pretest and posttest. Though students enjoyed the activity and participated enthusiastically, we cannot be confident that the discussion's effect on empathy and understanding of laugh track purpose will manifest as long-term changes in behavior. Further follow-up studies or programs for the students could help counter this issue. Also, the Media Detectives script incorporated a discussion of UPstander behavior, but lacked questions that challenged students to directly consider their actions outside of the classroom with regards to

interpreting canned laughter. The script should be changed in the future to gauge the effects of the video and discussion activity more accurately.

Notably, this study used an innovative measure (i.e., Media Detectives Survey) to assess empathy and awareness of the implications of canned laughter. Lynne Azarchi, the third author, realized that creating a measure was necessary, after conducting a literature review and being unable to find: 1) a media literacy program that investigated the relationship between canned laughter and empathy or 2) a useful measure corresponding to those variables. She formulated the questionnaire based on her experiences and imagination, rather than empirical data, and finalized it by reviewing the items with the Kidsbridge Education Committee. In this way, our study was enhanced and limited by the utilization of a new, much-needed measure.

Future replications of this study would benefit from an expanded, valid, and more reliable version of the questionnaire, and a short-response component to provide an opportunity for more personalized answers that a Likert Scale format could not provide. The Kidsbridge Tolerance Center coordinators hope to implement clips from reality TV shows into the program, to further highlight the various ways in which canned laughter can present itself in the media.

Kidsbridge has also recently launched mobile programs, which means that Kidsbridge facilitators visit schools and implement museum programs directly in the classroom. This development brings with it a convenience factor that allows the media literacy program to be continued longitudinally, giving us further opportunities to measure the activities' efficacy.

## Conclusions and Future Study

In this pilot study, we investigated a relationship between laugh track perception and empathy in children, both generally and considering gender differences over time. These preliminary findings suggest that a discussion integrating media literacy and regarding the use of laugh tracks may promote enhanced empathy in children. While examining the merits of this pilot study, it is important to note that more nuanced theoretical models are necessary for future research. Study replications would benefit from expanded sample sizes, as well as the incorporation of control groups and laugh tracks from media that branch out from AFV. A quasi-experiment lacks the internal validity and random assignment that are typical of an experimental study. The present research design may be useful in educational research, and in media literacy research where the goal is to evaluate instructional innovations under circumstances when experimental designs are impossible to employ (Hobbs and Frost 2003, as cited in Schmidt 2015). This study engaged children in a pilot evaluation of an innovative media education exhibit. Given the ubiquity of laugh tracks in the lives children across a variety of media platforms, we believe that there may be a natural connection among media, social norms, ingroup bias, empathy, and gender effects and the target population. Although we cannot fully generalize these results without a control group trial, the findings indicate that the Media Detectives exhibit at Kidsbridge shows promise in eliciting positive attitudinal change among children.

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## Appendix
## Media Detectives Instructional Program Script

BEGINNING:
Facilitator (F): "This station is called Media Detectives. Has anyone heard the term "media" before? What does it mean?"
Answer (A): TV, Internet, magazines, newspapers, etc.
F: "What does "detective" mean?"
A: A searcher for clues, solving crimes, etc.
F: "But first…let's take this short survey, not a test"
F: "We're going to be media detectives and search for clues in the TV and clip we watch- does that sound like FUN?"

INTRODUCE QUESTIONS TO GENERATE EMPATHY DISCUSSION:
F: "How do you feel if someone laughs when you get hurt?"
F: "How do you feel if classmates laugh when you make a mistake?"
F: "Now we're going to watch a video."

(With volume on mute: Play old people falling for 20-30 seconds and the sound off).
F: "What did you observe?"
F: "Now, let's play the same video with the sound on. What did you observe?"
F: "What was the difference with the second piece of video?"
A: Music and laughter
F: "Do the music and laughter make you feel differently about the video?"

PAIR SHARE:
F: "Why did the people who made the show add music and laughter?"
A: To make it seem funnier, more entertaining, to make you like it, make it popular
F: "Were the old people in the video really old? How can we tell? If this happened to your grandparents, would this be funny? What would you do?"
F: "Do you know what an upstander is?" (If not, explain)
F: "How could you be an upstander after watching these videos?"
F: "You have been a great group/So we wonder if you might feel differently."

ENDING:
F: "Let's flip the survey paper over and answer the questions on the back."
F: "Thank you."